

AMENDMENTS TO THE CLAIMS

Please amend the claims as shown below. A complete listing of the claims, including their current status, is set forth below.

1. **(Currently Amended)** A method for ~~treating a backing element comprising a gasket, wherein said backing element is adapted to join with a microarray substrate to form~~ forming an array assay chamber that is sealed by said a gasket, wherein said array assay chamber comprises at least one addressable array on said microarray substrate, said method comprising:

treating a backing element comprising a gasket with at least one of: (1) depositing SiO₂ on said gasket, (2) contacting said gasket with at least one of a liquid phase and a vapor phase, (3) contacting said gasket with plasma, to provide a treated surface of treat said backing element gasket, and

joining said backing element to a microarray substrate to produce an array assay chamber that is sealed by said treated surface of said gasket and comprises at least one addressable array on said microarray substrate.

2.-17. **(Canceled)**

18. **(Previously Presented)** The method of Claim 1, wherein said plasma is produced from a gas selected from the group consisting of nitrogen, air, argon, oxygen, nitrous oxide, helium, water vapor, carbon dioxide, methane, and combinations thereof.

19.-26. **(Canceled)**

27. **(Previously Presented)** The method of Claim 1, wherein said treating comprises increasing the hydrophilicity of said gasket.

28. **(Previously Presented)** The method of Claim 1, wherein said treating allows said gasket to form a seal when said backing element is joined to said microarray substrate.

29. **(Previously Presented)** The method of Claim 1, wherein said treating comprises sequentially contacting said gasket with at least two of: plasma, UV with O₂ and a solvent.

30.-52. **(Canceled)**

53. **(Currently Amended)** A method for ~~treating a backing element comprising a gasket, wherein said backing element is adapted to join with a microarray substrate to form~~ forming an array assay chamber that is sealed by said a gasket, wherein said array assay chamber comprises at least one addressable array on said microarray substrate, said method comprising:

contacting said ~~a backing element comprising a gasket~~ with plasma to provide a treated surface of ~~treat said backing element~~ gasket, and
joining said backing element to a microarray substrate to produce an array assay chamber that is sealed by said treated surface of said gasket and comprises at least one addressable array on said microarray substrate.

54. **(Canceled)**

55. **(Previously Presented)** The method of Claim 53, wherein said plasma is produced from a gas selected from the group consisting of nitrogen, air, argon, oxygen, nitrous oxide, helium, water vapor, carbon dioxide, methane, and combinations thereof.

56. **(Canceled)**

57. **(Currently Amended)** A method of using a backing element, wherein said backing element is adapted to join with a microarray substrate and comprises a gasket, comprising:

contacting said gasket with plasma to provide a treated surface of ~~treat said gasket; and~~

joining said backing element to a microarray substrate to produce an array assay chamber that is sealed by said **treated surface of said** gasket and comprises at least one addressable array of said microarray substrate.

58. **(Canceled)**

59. **(Previously Presented)** The method of Claim 57, wherein said plasma is produced from a gas selected from the group consisting of nitrogen, air, argon, oxygen, nitrous oxide, helium, water vapor, carbon dioxide, methane, and combinations thereof.

60. **(Previously Presented)** The method of Claim 57, wherein said surface modifying comprises increasing the hydrophilicity of said gasket.

61. **(Previously Presented)** The method of Claim 57, wherein said surface modifying allows said gasket to form a seal when said backing element is joined to said microarray substrate.

62. **(Previously Presented)** The method of Claim 57, wherein said surface modifying comprises sequentially contacting said gasket with at least two of: plasma, UV with O₂ and a solvent.